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EXAMINER

DADA, BEEMNET W

ART UNIT	PAPER NUMBER
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2135

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/610,783

Applicant(s)

SAKO ET AL.

Examiner

Beemnet W. Dada

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-58 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

1. The request filed 24 February 2005 for a request for Continued Examination (RCE) under 37 CFR 1.114 based on parent Application 09/610,783 is acceptable and an RCE has been established. An Action on the RCE follows. Claims 1, 11, 22, 30, 40 and 51 have been amended. Claims 1-58 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1-2, 4-5, 30-31 and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanota et al. (US Patent No. 5,418,853) in view of Thompson et al. (US Patent No. 4,716,588) and further in view of Ryan 5,574,787 (hereinafter Ryan_787).

6. As per claims 1 and 30, Kanota et al discloses receiving video signal at a reproducing device via a satellite communication link (col 6 ln 53-col 7 ln 11); detecting copy management information that has been appended the video signal (col 3 ln 25-52); and providing a copy permission indicator in the received video signal by generating a protect code signal (col 3 ln 34-col 4 ln 16) based on said copy management information (col 3 ln 34-col 4 ln 16), said protect code signal having plural coded bits (col 3 ln 64-67) and being operable to indicate a generation limitation on copying of the video signal (col 3 ln 64-col 4 ln 16), and arraying said protect code signal pre-set position in the video signal (col 3 ln 4063).

Kanota et al does not explicitly teach receiving a video signal with appended copy management information via a satellite communication link. However, Thompson et al teaches receiving a video signal with appended copy management information at a reproducing device via a satellite communication link (col 5, ln 1-53 and col 33 ln 15-23).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kanota et al by including the reception of video signal with appended copy management information via satellite as per teachings of Thompson et al within the system of Kanota et al. One of ordinary skill in the art would have been motivated to do so in order to enable pay broadcasts to various subscribers via satellite (Thompson et al col 33, lines 15-23).

The combination of Kanota and Thompson is silent on copy management information including an indicator of whether copying of only digital data is inhibited or copying of digital and analog signals is inhibited. Ryan_787 teaches a copy protection for hybrid digital/analog video recorder [see abstract] including copy management information including an indicator of whether copying of only digital data is inhibited or copying of digital and analog signals is inhibited [column 4, lines 41-57, column 7, lines 1-9, 27-34]. Both Ryan_787 and Kanota-Thompson teach a copy protection system. It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to employ the teachings of Ryan_787 within the system of Kanota-Thompson in order to further inhibit copying of digital data and analog signal and further enhance the security of the system.

7. As per claims 2 and 31, Kanota et al further discloses the protect code signal includes two bits of information (col 3 ln 53-col 4 ln 10), each having distinct significance and together identifying various copy permission states (col 4 ln 3-14).

8. As per claim 5 and 34, Kanota et al further discloses the video signal including a vertical blanking interval (col 3 ln 53-63) and wherein said protect code signal is encoded in the vertical blanking interval of the video signal at line 21 of a field (col 3 ln 53-63).

9. As per claims 4 and 33, Kanota et al further discloses the video signal including a vertical blanking interval (col 3 ln 53-63) and wherein said protect code signal is encoded in the vertical blanking interval of the video signal at line 21 of a field and that other line intervals may be used (col 3 ln 53-63). Kanota et al does not explicitly teach said protect code signal is encoded in the vertical blanking interval of the video signal at line 21 of a field. It would have been a matter of design choice to encode said protect code signal in the vertical blanking interval of the video signal at line 21 of a field because the applicant has not explicitly stated any reason for encoding at a particular line and that encoding said protect code signal in the vertical blanking interval of the video signal at line 20 of a field, as disclosed by Kanota et al is just as efficient.

10. Claims 3 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanota et al, US Patent 5,418,853, in view of Thompson et al. US Patent 4,716,588 and further in view of Ryan 5,574,787 (hereinafter Ryan_787) as applied above and further in view of Okamoto et al, US Patent 5,627,655.

11. As per claims 3 and 32, the combination of Kanota et al and Thompson et al discloses the method as applied above. Kanota et al further discloses wherein said two bit protect code signal is indicative of copying being permitted without restriction and no copying being permitted

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(col 4 ln 214). The combination of Kanota et al, Thompson et al and Ryan_787 does not explicitly teach said two bit protect signal being indicative of one generation of copying being permitted. Okamoto et al discloses reproducing a video signal (abstract) wherein copy protect signal including two bits are indicative of one generation of copying being permitted (col 4 ln 3-14). Both Okamoto et al and Kanota et al disclose a method and apparatus reproducing a video signal including a copy protect signal. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to employ the teachings of Okamoto et al within the combination of Kanota et al, Thompson et al and Ryan_787 because it would provide more options in the reproduction of video signals and implementing copy protection.

12. Claims 6-7 and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanota et al, US Patent 5,418,853 in view of Thompson et al US Patent 4,716,588 and further in view of Ryan 5,574,787 (Ryan_787) as applied above, and further in view of Dieterich, US Patent 4,308,577.

13. As per claim 6 and 35, the combination of Kanota et al, Thompson et al, and Ryan_787 teaches the method as applied above. Kanota et al further discloses the video signal including a vertical blanking interval (col 3 ln 53-63) and wherein said protect code signal is encoded in the vertical blanking interval of the video signal at line 21 of a field and that other line intervals may be used (col 3 ln 53-63). Kanota et al does not explicitly teach said protect code signal is encoded in the vertical blanking interval of the video signal at line 21 of a field. It would have been a matter of design choice to encode said protect code signal in the vertical blanking interval of the video signal at line 21 of a field because the applicant has not explicitly stated any reason for encoding at a particular line and that encoding said protect code signal in the vertical

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blanking interval of the video signal at line 20 of a field, as disclosed by Kanota et al is just as efficient.

Kanota et al further discloses the protect code signal includes two bits of information (col 3 ln 53-col 4 ln 10), each having distinct significance and together identifying various copy permission states (col 4 ln 3-14). The combination of Kanota et al and Thompson et al does not explicitly teach a logical "1" of said protect code signal is represented by level of 50-IRE and logical "0" of said protect code signal is represented by a level of 0-IRE. Dietrich discloses IRE units (luminance level, col 3 ln 5-24) used for representing data as a logical "1" and a logical "0" (col 3 ln 5-24). Both Dietrich and Kanota et al disclose video signal reproduction of copy protection. Kanota et al discloses bits representing logical "1" and "0" (col 4 ln 214), which can be represented by any means well known in the art. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to employ the teachings of Dietrich within the system Kanota et al, Thompson et al and Ryan_787 because it would have provided a means of representing the signal without extra hardware. Video signal processing systems are well known in the art to be able to detect luminance levels.

14. As per claims 7 and 36, the combination of Kanota et al, Thompson et al and Ryan_787 teaches the method as applied above. Kanota et al further discloses the video signal including a vertical blanking interval (col 3 ln 53-63) and wherein said protect code signal is encoded in the vertical blanking interval of the video signal at line 21 of a field (col 3 ln 53-63). Kanota et al further discloses the protect code signal includes two bits of information (col 3 ln 53-col 4 ln 10), each having distinct significance and together identifying various copy permission states (col 4 ln 3-14). The combination of Kanota et al, Thompson et al and Ryan_787 does not explicitly teach a logical "1" of said protect code signal is represented by a level of 70-IRE and a logical

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"0" of said protect code signal is represented level of 70-IRE. Dietrich discloses IRE units (luminance level, col 3 ln 5-24) used for representing data as a logical "1" and a logical "0" (col 3 ln 5-24). Both Dietrich and Kanota et al disclose video signal reproduction of copy protection. Kanota et al discloses bits representing logical "1" and "0" (col 4 ln 2-14), which can be represented by any means well known in the art. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to employ the teachings of Dietrich within the system Kanota et al, Thompson et al and Ryan_787 because it would have provided a means of representing the signal without extra hardware. Video signal processing systems are well known in the art to be able to detect luminance levels.

15. Claims 8 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanota et al, US Patent 5,418,853 in view of Thompson et al US Patent, 4,716,588 and further in view of Ryan US Patent 5,574,787 (Ryan_787) as applied above, and further in view of Horton et al, US Patent 4,945,563.

As per claims 8 and 37, the combination of Kanota et al, Thompson et al and Ryan_787 does not explicitly teach charging information in the received video signal. Horton et al discloses viewing access control including detecting charging information in the received video signal (col 3 ln 31-60) and transmitting said charging information to a billing center (col 3 ln 56-60). The use of charging information in video signals are well known in the art for purposes of billing. Both Horton et al and Kanota et al disclose methods of modifying video signals from a satellite communication link for copy protection. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to employ the teachings of Horton et al within the system of Kanota et al, Thompson et al and Ryan_787 because it would have extended copy protection to premium programming wherein a fee is accessed for viewing.

16. Claims 9 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanota et al, US Patent 5,418,853 in view of Thompson et al, US Patent 4,716,588 and further in view of Ryan US Patent 5,574,787 (Ryan_787) as applied above and further in view of Kamitake, US Patent 4,751,732, and further in view of Saito, US Patent 5,504,933.

17. As per claims 9 and 38, the combination of Kanota et al, Thompson et al and Ryan_787 does not explicitly teach account status information. Kamitake discloses controlling of reproduction of the video signal according to account status information (col 3 ln 3-33). Both Kamitake and Kanota et al disclose methods of video reproduction with access control.

Premium video programs, such as "pay per view", wherein a fee is charged for viewing or recording are well known in the art. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Kamitake within the system of Kanota et al, Thompson et al and Ryan_787 because it would extend copy protection to reproduction of premium video programs. Furthermore, the combination of Kanota et al Thompson et al, Ryan_787 and Kamitake et al does not teach transmitting means between a reproducing device and a billing center. Saito discloses video program reproduction means wherein information is transmitted between a billing center and the reproducing device (fig 1 and 2, col 7 ln 10-17). Kamitake further discloses obtaining account status by physically going to a billing center (3 ln 3-46). The means of transmitting data from one device to another is well known in the art to have the advantage of eliminating physical delivery of messages. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to employ the teachings of Saito within the combination of Kanota et al, Thompson et al,

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Ryan_787 and Kamitake et al because it adds convenience through electronic transmission of information.

18. Claims 10 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanota et al, US Patent 5,418,853, in view of Thompson et al, US Patent 4,716,588 in view of Ryan US Patent 5,315,448 (Ryan_787) in view of Kamitake, US Patent 4,751,732, and further in view of Saito, US Patent 5,504,933 as applied to claim 9 above, and further in view of Yamauchi, US Patent 5,668,873.

19. As per claims 10 and 39, Kanota et al discloses copy protection of video signals using a protect code signal (see claim 1). The combination of Kanota et al, Thompson et al, Ryan_787 Kamitake et al, and Saito does not explicitly teach disabling the arraying of said protect code signal in the video signal. Yamauchi discloses disabling of arraying of copy inhibition operation (col 3 ln 60-66 and col 4 ln 17-30), so that normal viewing of and recording of video signals are allowed (col 1 ln 57-65). Both Yamauchi and the combination of Kanota et al, Thompson et al, Ryan_787, Kamitake et al and Saito disclose a method of video reproduction with copy protection. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the disabling feature of Yamauchi within the arraying feature of the combination of Kanota et al, Thompson et al, Ryan_787, Kamitake et al, and Saito because it would have simplified the reproducing device when no copy protection is necessary.

20. Claims 11-15, 22, 24-26, 40-44, 51 and 53-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanota et al, US Patent 5,418,853, in view of Ryan, US Patent 4,631,603, in view of Ryan, US Patent 4,695,901 (hereinafter Ryan '901) and further in view of

Thompson et al, US Patent 4,716,588 and further in view of Ryan US Patent 5,574,787 (Ryan_787).

21. As per claims 11 and 40, Kanota et al discloses receiving video signal at a reproducing device via a satellite communication link (col 6 ln 53-col 7 ln 11); detecting copy management information that has been appended the video signal (col 3 ln 25-52); and generating a copy protection signal (col 3 ln 34-col 4 ln 16) based on said copy management information (col 3 ln 34-col 4 ln 16). Kanota et al further discloses inserting said copy protection signal into the video signal (col 3 ln 25col 4 ln 16). Kanota et al does not explicitly teach inserting copy protection signal into the video signal by arraying a multiple of pseudo-sync pulses in the vertical blanking interval of the video signal, said pseudo-sync pulses having an amplitude equal to the amplitude of the video signal sync pulses, and arraying a multiple of automatic gain control (AGC) pulses in the vertical blanking interval of the video signal. Ryan discloses a method of inhibiting copying of video signals (abstract) including inserting copy protection signal into the video signal by arraying a multiple of pseudo-sync pulses in the vertical blanking interval of the video signal (col 2 ln 4-21 and col 3 ln 6-26), said pseudo-sync pulses having an amplitude equal to the amplitude of the video signal sync pulses (col 3 ln 6-19), and arraying a multiple of automatic gain control (AGC) pulses in the vertical blanking interval of the video signal (positive pulses, col 3 ln 27-50; Positive pulses are inherently known as AGC pulses as referred to by Ryan ('901) (see col 1 ln 40-50)). Ryan further discloses that such arraying is for the purpose of inhibiting copying of video signals (abstract). Both Ryan and Kanota et al discloses a method of video reproduction with copy protection. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Ryan within the system of

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Kanota et al because it provides inhibition of copying video signals without scrambling the video signal with a scrambling key (as described by Kanota et al, col 5 ln 47-64).

The combination of Kanota et al and Ryan does not explicitly teach receiving a video signal with appended copy management information via a satellite communication link. However, Thompson et al teaches receiving a video signal with appended copy management information at a reproducing device via a satellite communication link (col 5, ln 1-53 and col 33 ln 15-23). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the teachings of Thompson et al within the combination of Kanota et al and Ryan. One of ordinary skill in the art would have been motivated to do so in order to enable pay broadcasts to various subscribers via satellite (Thompson et al col 33, lines 15-23).

The combination of Kanota, Ryan and Thompson is silent on copy management information including an indicator of whether copying of only digital data is inhibited or copying of digital and analog signals is inhibited. Ryan_787 teaches a copy protection for hybrid digital/analog video recorder [see abstract] including copy management information including an indicator of whether copying of only digital data is inhibited or copying of digital and analog signals is inhibited [column 4, lines 41-57, column 7, lines 1-9, 27-34]. Both Ryan_787 and Kanota-Ryan-Thompson teach a copy protection system. It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to employ the teachings of Ryan_787 within the system of Kanota-Thompson in order to further enhance security of the system by inhibiting copy of digital data and analog signal.

22. As per claims 12 and 41, Kanota et al does not explicitly teach AGC signals (see claim 11). Ryan further discloses the duration of said AGC pulses approximately 3.0 microseconds

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(col 5 In 43-48). Both Ryan and Kanota et al discloses a method of video reproduction with copy protection. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Ryan within the system of Kanota et al, Thompson et al and Ryan_787 because it provides inhibition of copying video signals without scrambling the video signal with a scrambling key (as described by Kanota et al, col 5 In 47-64).

23. As per claims 13 and 42, Kanota et al discloses video signals (abstract). Ryan et al does not explicitly teach the video signal exhibiting a peak white amplitude, and wherein the amplitude of said AGC pulses is greater than the peak white amplitude. Ryan et al discloses a video signal video signal exhibiting a peak white amplitude (col 3 In 45-50), and wherein the amplitude of said AGC pulses is greater than the peak white amplitude (col 3 In 45-50 and col 6 In 4052). Both Ryan and Kanota el. al discloses a method of video reproduction with copy protection. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Ryan within the system of Kanota et al, Thompson et al and Ryan_787 because it provides inhibition of copying video signals without scrambling the video signal with a scrambling key (as described by Kanota et al, col 5 In 4764).

24. As per claims 14 and 43, Kanota et al does not explicitly teach pseudo-sync and AGC pulses (see claim 11 above). Ryan further discloses pseudo-sync and AGC pulses are inserted on lines of the vertical blanking interval (fig 1 a and b, col 3 In 51-col 4 In 3). Both Ryan and Kanota et al discloses a method of video reproduction with copy protection. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Ryan within the system of Kanota et al, Thompson et al and Ryan_787 because it provides inhibition of copying video signals without scrambling the video signal with a

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scrambling key (as described by Kanota et al, col 5 ln 47-64). The combination of Kanota et al, Ryan and Thompson et al does not explicitly teach pseudo-sync and AGC pulses are inserted on lines 1 to 17 and 273-280 of the vertical blanking interval the video signal. It would have been an obvious matter of design choice to modify the combination of Kanota et al, Ryan, Thompson et al and Ryan_787 insert pseudo-sync and AGC pulses on lines 1 to 17 and 273-280 of the vertical blanking interval because the applicant has not explicitly stated any particular reason of inserting such pulses in any lines and that inserting such pulses at any line in the vertical interval is just as efficient.

25. As per claims 15 and 44, Kanota et al does not explicitly teach pseudo sync pulses (see claim 11 above). Ryan discloses pseudo sync pulses having a duration of 2.2 microseconds (col 5 ln 1-25). Both Ryan and Kanota et al discloses a method of video reproduction with copy protection. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Ryan within the system of Kanota et al Thompson et al and Ryan_787 because it provides inhibition of copying video signals without scrambling the video signal with a scrambling key (as described by Kanota et al, col 5 ln 47-64).

26. As per claims 22 and 51, Kanota discloses a video signal of the type having a vertical blanking interval (abstract), receiving the video signal at a reproducing device via a satellite communication link (col 6 ln 53-col 7 ln 11); detecting copy management information that has been appended the video signal (col 3 ln 25-52) in the form of a multiple of trigger bits (col 3 ln 53-col 4 ln 16); and providing a copy protection in the video signal when said trigger bits indicate that copying should be inhibited (col 4 ln 61-col 5 ln 14). Kanota et al does not explicitly teach arraying a multiple of pseudo-sync pulses and a multiple of automatic gain control (AGC)

pulses in the vertical blanking interval of the video signal. Ryan discloses a method of inhibiting copying of video signals (abstract) including arraying a multiple of pseudo-sync pulses (col 2 ln 4-21 and col 3 ln 6-26), and arraying a multiple of automatic gain control (AGC) pulses in the vertical blanking interval of the video signal (positive pulses, col 3 ln 27-50; Positive pulses are inherently known as AGC pulses as referred to by Ryan ('901) (see Ryan ('901) col 1 ln 40-50)). Ryan further discloses that such arraying is for the purpose of inhibiting copying of video signals (abstract). Both Ryan and Kanota et al discloses a method of video reproduction with copy protection. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Ryan within the system of Kanota et al because it provides inhibition of copying video signals without scrambling the video signal with a scrambling key (as described by Kanota et al, col 5 ln 47-64).

The combination of Kanota et al and Ryan does not explicitly teach receiving a video signal with appended copy management information via a satellite communication link. However, Thompson et al teaches receiving a video signal with appended copy management information at a reproducing device via a satellite communication link (col 5, ln 1-53 and col 33 ln 15-23). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the teachings of Thompson et al within the combination of Kanota et al and Ryan. One of ordinary skill in the art would have been motivated to do so in order to enable pay broadcasts to various subscribers via satellite (Thompson et al col 33, lines 15-23).

The combination of Kanota, Ryan and Thompson is silent on copy management information including an indicator of whether copying of only digital data is inhibited or copying of digital and analog signals is inhibited. Ryan_787 teaches a copy protection for hybrid digital/analog video recorder [see abstract] including copy management information including an

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indicator of whether copying of only digital data is inhibited or copying of digital and analog signals is inhibited [column 4, lines 41-57, column 7, lines 1-9, 27-34]. Both Ryan_787 and Kanota-Ryan-Thompson teach a copy protection system. It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to employ the teachings of Ryan_787 within the system of Kanota-Thompson in order to further enhance security of the system by inhibiting copy of data.

27. As per claim 24 and 53, Kanota et al further discloses the trigger bits being only operable when copyright subsists in the video signal (col 3 ln 25-51 and col 6 ln 15-52).

28. As per claim 25 and 54, Kanota et al further discloses said trigger bits are encoded in the vertical blanking interval of the video signal at any line in an odd or even field interval (col 3 ln 53-62). The combination of Kanota et al Ryan, Thompson et al and Ryan_787 does not explicitly teach the trigger bits being encoded in the vertical blanking interval of the video signal at line 20 of field 1 and line 20 of field 2. It would have been an obvious matter of design choice to modify the combination of Kanota et al, Ryan, Thompson et al and Ryan_787 to encode trigger bits at line 20 of field 1 and line 20 of field 2 because the applicant has not explicitly stated that encoding at the specific position is of any particular purpose and that encoding the trigger bits at any line and field in the vertical blanking interval is just as efficient.

29. As per claims 26 and 55, Kanota et al further discloses said trigger bits in a 20 bit digital signal (col 3 ln 64-col 4 ln 16, fig 3). Kanota et al further discloses selective inhibition of recording (col 6 ln 11-53). One of ordinary skill in the art would have been able to modify the amount of trigger bits of Kanota et al to further include trigger bits at bits 9 and 10 of word 2 in

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the 20 bit signal. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention modify Kanota et al because of the added options to selectively inhibit copying.

30. Claims 16-18, 23, 45-47, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanota et al, US Patent 5,418,853, further in view of Ryan, US Patent 4,631,603, and further in view of Ryan, US Patent 4,695,901 (hereinafter Ryan '901) and further in view of Thompson et al, US Patent 4,716,588 and further in view of Ryan US Patent 5,574,787 (Ryan_787) as applied above, and further in view of Ryan, US Patent 4,577,216 (hereinafter Ryan '216).

31. As per claims 16 and 45, Kanota et al disclose a video signal (see claim 11 above). Ryan further discloses a video signal including color burst signals (col 3 ln 27-34). The combination of Kanota et al, Ryan, Thompson and Ryan_787 does not explicitly teach the video signal including color burst signals of particular phase, and further comprising the step of modifying the phase of at least a portion of selected color burst signals of the video signal. Ryan '216 discloses a video signal including color burst signals of particular phase, and further comprising the step of modifying the phase of at least a portion of selected color burst signals of the video signal (col 2 ln 1-51). Both Ryan '216 and the combination of Kanota et al and Ryan disclose video signal reproduction and copy protection. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to employ the teachings of Ryan '216 within the combination of Kanota et al Ryan, Thompson et al and Ryan_787 because it provides copy inhibition without scrambling using a key to extend to color video signals.

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32. As per claim 17 and 46, the combination of Kanota et al, Ryan, Thompson et al, Ryan_787 and Ryan '216 discloses a arraying said pseudo-sync pulses, arraying said AGC pulses and modifying the phase (see claim 16 above). Ryan further discloses performing arraying of said pseudo-sync pulses and arraying of said AGC pulses are performed in a plurality of line, either contiguous or scattered, in a vertical blanking interval (col 3 ln 27-56). Phase modification (as taught by Ryan '216, see claim 16) is inherently done to a plurality of lines to be effective in modifying the video signal to inhibit reproduction. It would have been an obvious matter of design choice to modify the combination of Kanota et al, Ryan, Thompson et al, Ryan_787 and Ryan '216 such that arraying of said pseudo-sync pulses, arraying of said AGC pulses, and phase modification is performed for two successive lines of every 17 lines of the vertical blanking interval beginning at 30 in field 1 and at line 301 field 2 because the applicant has not explicitly stated that performing arraying and modification at that position is for any particular purpose and performing arraying and modification at any plurality of lines of the vertical blanking interval is just as efficient.

33. As per claims 18 and 47, the combination of Kanota et al, Ryan, Thompson et al, Ryan_787 and Ryan '216 discloses a arraying said pseudo-sync pulses, arraying said AGC pulses and modifying the phase (see claim 16 above). Ryan further discloses performing arraying of said pseudo-sync pulses and arraying of said AGC pulses are performed in a plurality of line, either contiguous or scattered, in a vertical blanking interval (col 3 ln 27-56). Phase modification (as taught by Ryan '216, see claim 16) is inherently done to a plurality of lines to be effective in modifying the video signal to inhibit reproduction. It would have been an obvious matter of design choice to modify the combination of Kanota et al, Ryan, Thompson et al, Ryan_787 and Ryan '216 such that arraying of said pseudo-sync pulses, arraying of said

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AGC pulses, and phase modification is performed four successive lines every 21 lines of the vertical blanking interval beginning at line 24 in field 1 and at line 297 in field 2 because the applicant has not explicitly stated that performing arraying and modification at that position is for any particular purpose and performing arraying and modification at any plurality of lines of the vertical blanking interval is just as efficient.

34. As per claims 23 and 52, Kanota et al discloses trigger bits (col 3 ln 64-col 4 ln 16, fig 3). Ryan further discloses a video signal including color burst signals (col 3 ln 27-24). The combination of Kanota et al, Ryan, Thompson et al and Ryan_787 does not explicitly teach trigger bits indicating that color burst modification should be performed. Ryan '216 discloses a video signal including color burst signals of particular phase, and further comprising the step of modifying the phase of at least a portion of selected color burst signals of the video signal (col 2 ln 1-51). Both Ryan '216 and the combination of Kanota et al, Ryan Thompson et al and Ryan_787 disclose video signal reproduction and copy protection. The method of using trigger bits to indicate a desired feature is disclosed by Kanota et al (col 3 ln 64-col 4 ln 16). One of ordinary skill in the art would have been able to modify the trigger bits of Kanota et al to further indicate a selection of color burst modification and to further perform color burst modification as taught by Ryan '216. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Ryan '216 within the combination of Kanota et al Ryan Thompson et al and Ryan_787 because it provides copy inhibition without scrambling using a key to extend to color video signals.

35. Claims 19, 27, 48, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanota et al, US Patent 5,418,853, further in view of Ryan US Patent 4,631,603 and

further in view of Thompson et al US Patent 4,716,588, and further in view of Ryan, US Patent 4,695,901 (hereinafter Ryan '901) and further in view of Ryan US Patent 5,574,787 (Ryan_787) as applied above, and further in view of Horton et al, US Patent 4,945,563.

36. As per claims 19, 27, 48, and 56, the combination of Kanota et al, Ryan and Thompson et al and Ryan_787 does not explicitly teach charging information in the received video signal. Horton et al discloses viewing access control including detecting charging information in the received video signal (col 3 ln 31-60) and transmitting said charging information to a billing center (col 3 ln 56-60). The use of charging information in video signals are well known in the art for purposes of billing. Both Horton et al and the combination of Kanota et al Ryan, Thompson et al and Ryan_787 disclose methods of modifying video signals from a satellite communication link for copy protection. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to employ the teachings of Horton et al within the combination of Kanota et al, Ryan, Thompson et al and Ryan_787 because it would have extended copy protection to premium programming wherein a fee is accessed for viewing.

37. Claims 20, 28, 49, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanota et al, US Patent 5,418,853, further in view of Ryan, US Patent 4,631,603, and further in view of Thompson et al, US Patent 4,716,588 and further in view of Ryan, US Patent 4,695,901 (hereinafter Ryan '901) as applied above, further in view of Kamitake, US Patent 4,751,732, and further in view of Saito, US Patent 5,504,933.

38. As per claims 20, 28, 49 and 57, the combination of Kanota et al, Thompson et al, Ryan and Ryan_787 does not explicitly teach account status information. Kamitake discloses

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controlling of reproduction of the video signal according to account status information (col 3 ln 3-33). Both Kamitake and the combination of Kanota et al, Ryan, Thompson et al and Ryan_787 disclose methods of video reproduction with access control. Premium video programs, such as "pay iper view", wherein a fee is charged for viewing or recording are well known in the art. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Kamitake within the combination of Kanota et al, Ryan, Thompson et al and Ryan_787 because it would extend copy protection to reproduction of premium video programs.

Furthermore, the combination of Kanota et al, Ryan, Thompson et al, Ryan_787 and Kamitake et al does not teach transmitting means between a reproducing device and a billing center. Saito discloses video program reproduction means wherein information is transmitted between a billing center and the reproducing device (fig 1 and 2, col 7 ln 10-17). Kamitake further discloses obtaining account status by physically going to a billing center (col 3 ln 3-46). The means of transmitting data from one device to another is well known in the art to have the advantage of eliminating physical delivery of messages. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Saito within the combination of Kanota et al, Ryan, Thompson et al, Ryan_787 and Karnitake et al because it adds convenience through electronic transmission of information.

39. Claims 21, 29, 50, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanota et al, US Patent 5,418,853, further in view of Ryan, US Patent 4,631,603, and further in view of Thompson et al, US Patent 4,716,588 and further in view of Ryan, US Patent 4,695,901 (hereinafter Ryan '901), and further in view of Ryan, US Patent 5,574,787

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(Ryan_787) and further in view of Kamitake, US Patent 4,751,732, and further in view of Saito, US Patent 5,504,933 as applied above, and further in view of Yamauchi, US Patent 5,668,873.

40. As per claims 21 and 50, Kanota et al discloses copy protection of video signals using a protect code signal (see claim 11). The combination of Kanota et al, Ryan, Thompson et al, Ryan_787 and Kamitake et al, and Saito does not explicitly teach disabling the arraying of said copy protection signal in the video signal. Yamauchi discloses disabling of arraying of copy inhibition operation (col 3 ln 60-66 and col 4 ln 1730), so that normal viewing of and recording of video signals are allowed (col 1 ln 57-65). Both Yamauchi and the combination of Kanota et al, Ryan, Thompson et al, Ryan_787 Kamitake et al and Saito disclose a method of video reproduction with copy protection. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to employ the disabling feature of Yamauchi within the inserting feature of the combination of Kanota et al, Ryan, Thompson et al, Ryan_787, Kamitake et al, and Saito because it would have simplified the reproducing device when no copy protection is necessary.

41. As per claims 29 and 58, the combination of Kanota et al and Ryan discloses arraying of multiple of pseudo-sync pulses and a multiple of automatic gain control pulses in the vertical blanking interval of the video (see claim 22). The combination of Kanota et al, Ryan, Thompson et al, Ryan_787, Kamitake et al, and Saito does not explicitly teach disabling the arraying of multiple of pseudo-sync pulses and a multiple of automatic gain control pulses in the vertical blanking interval of the video. Yamauchi discloses disabling of arraying of copy inhibition operation (col 3 ln 60-66 and col 4 ln 17-30), so that normal viewing of and recording of video signals are allowed (col 1 ln 57-65). Both Yamauchi and the combination of Kanota et al, Ryan,

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Thompson et al, Ryan_787, Kamitake et al and Saito disclose a method of video reproduction with copy protection. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the disabling feature of Yamauchi within the arraying feature of the combination of Kanota et al, Ryan, Thompson et al, Ryan_787, Kamitake et al and Saito because it would have simplified the reproducing device when no copy protection is necessary.

Response to Arguments

42. Applicant's arguments with respect to claims 1-58 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

43. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beemnet W. Dada whose telephone number is (571) 272-3847. The examiner can normally be reached on Monday - Friday (9:00 am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

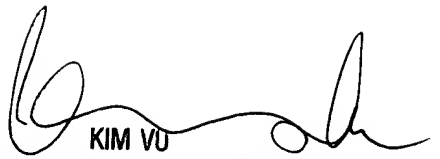
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